NEVADA FOREST HEALTH HIGHLIGHTS 2018

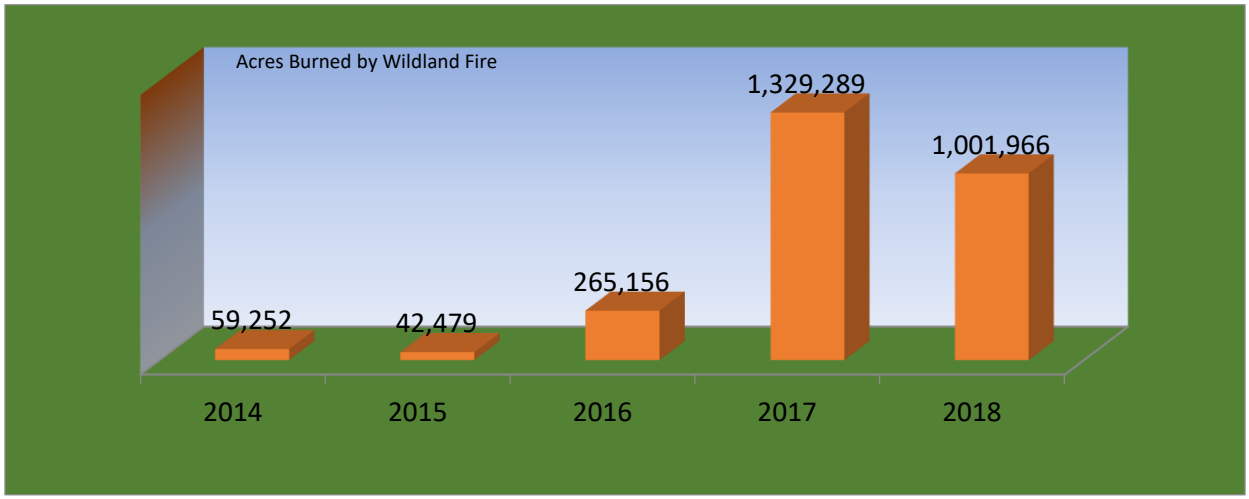
The Forest Resource

Nevada is unique due to the fact that its forested component among the western states, is made up of 314 forested mountain "islands" separated by wide non-forested basins. Eighty-six percent of the state is non-forest and approximately 83% of the land is federally owned. Although the area of forest land is small, the value of the forest resource is immeasurable in terms of commodities, recreational use, and aesthetic properties. Healthy wildland, and urban forests provide multiple benefits to Nevada's diverse population. Nevada's forests vary from pinyon and juniper woodlands, mixed conifer forests, and alpine forest cover types. Nevada's 11.1 million acres of forestland produces little commercial timber, they do provide other wood products, watershed protection, wildlife habitat, and recreation opportunities. Together with the urban forests in the state's communities, Nevada's forests are a critical resource in this sparsely forested state.

The majority of the forested lands are owned by the federal government, with approximately 866,900 acres of forestland in state or private ownership. From a statewide perspective the total of all forestlands (76%) are composed of pinyon and/or juniper woodlands. The other forest types are found in riparian areas, the mid, and high elevations in the state's 314 mountain ranges. Detailed information is available from the Interior West FIA.

Forest Health Highlights

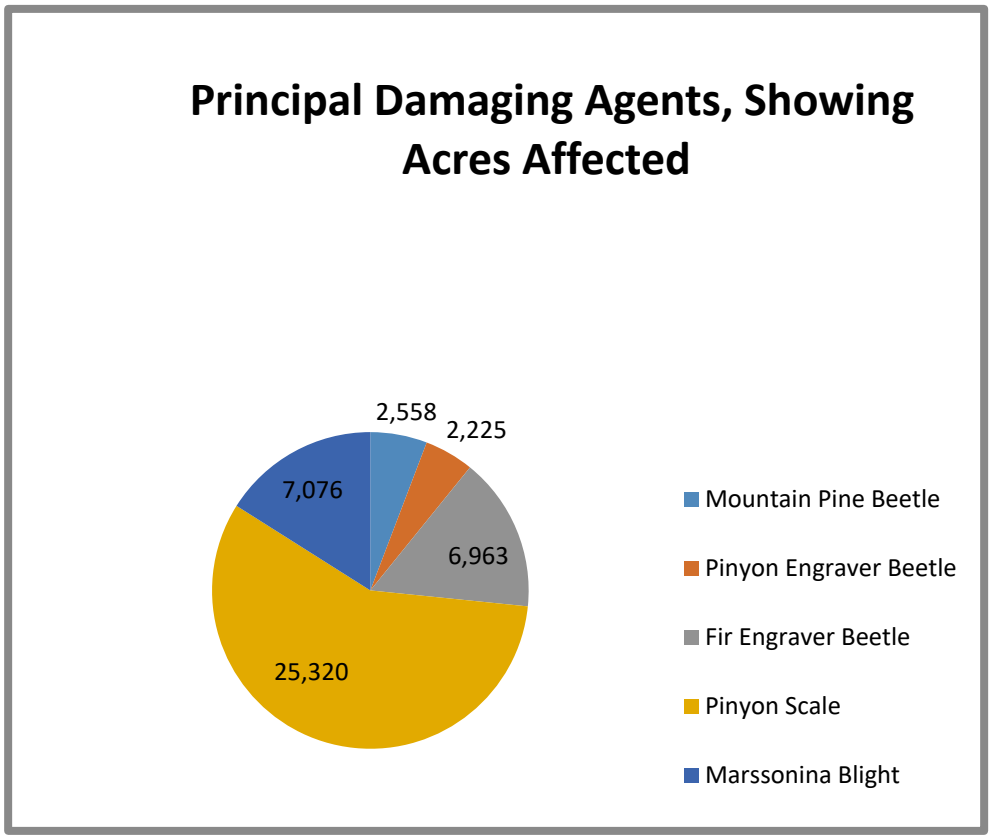
Nevada's forests are host to many common pests which plague western forests. Widespread stress to trees, brought on by drought conditions is a concern every year in Nevada. These conditions weaken individual trees creating favorable conditions for native and non-native pests. Wildfire is a major change component for Nevada's forest and rangelands. In 2018, the state experienced a second



consecutive year of large acreages burned. Approximately 1,001,966 acres were burned in 2018 as compared to 1,329,289 acres in 2017. The majority of the fires occurred in sagebrush ecosystems, however approximately 35% of the acres burned in pinyon and juniper woodlands, mixed conifer forest, aspen stands, and riparian areas. The three largest fires were the Martin, South Sugarloaf, and Roosevelt fires which burned in Humboldt and Elko counties.

Forest health issues range at varying degrees, but no large scale outbreaks were recorded in 2018. In 2018, total recorded damage is approximately 54,595 acres. This is approximately a 40,500 acre increase compared to 2017. Pinyon Needle Scale caused the most damage statewide affecting approximately 25,320 acres. Marssonina Blight in Aspen showed record damage on 7,076 acres. Damage from Mountain Pine Beetle was recorded on 2,558 acres affecting mainly lodgepole, limber, whitebark, western white, and bristlecone pine. This was a very slight increase from 2017 and mainly occurred in the higher elevations throughout the state.

Fir Engraver beetle damage increased in 2018 by more than 4,500 acres. Total damage recorded is approximately 6,963 acres in the mixed conifer forests statewide.



Damage Agents by Acres affected

Pinyon engraver beetle increased slightly to 2,225 acres of damage recorded. This is still considered fairly endemic damage with no real large acreage outbreaks recorded. Root Diesase complex afecting white fir and sub-alpine fir decreased slightly to 1,173 acres. This complex is mainly casued by Annosum root disease, and western balsam bark beetle, and other wood borers. The majority of this damage was confined to the Jarbridge Mountains, in northeast Nevada.

White Satin Moth a non-native insect pest continues to be detected throughout Nevada with the greatest impact being in Lake Tahoe Nevada State park. Aerial surveys detected 1,929 acres statewide with approximately 350 acres being heavily defoliated in the state park. Monitoring and trapping were established, to determine population trends and will be continued in 2019.

A cooperative study between the University of Nevada, Nevada division of Forestry, and Nevada State Parks is ongoing to study the effects from White Satin Moth. This study is researching the effects of tree genetics, soils and water tables have differences on how levels of damage the pest causes and if better management guidelines be developed. For additional information see the Nevada Division of Forestry web site.

Forest Health Project Highlights

The Nevada Division of Forestry worked cooperatively with private landowners in Kyle Canyon, located in the Spring Mountains outside of Las Vegas on a SPLAT Verbenone project covering approximately 170 acres. This project treated over 50 private lots with SPLAT to control infestations of Mountain Pine Beetle. A cooperative workday with more than 20 volunteers was conducted for the initial treatment application. All treated trees were identified by NDF Resource Staff, with the Forest Health Specialist managing the project. The second mid-summer treatment was conducted by volunteer labor and was completed in two days. Volunteer labor donated over 400 hours, which allowed the project to be completed in a timely manner. Results were very effective with very few new infestations noted throughout the field season.

Verbernone Application

Cooperative Effort

The Nevada Division of Forestry treated 16 acres of salt cedar infestations from November through December, 2018 on two separate parcels, located along the Virgin River in southeast Nevada. Clark County, and a private landowner collaborated with by the Nevada Division of Forestry, and it's Forest Products Program to complete these projects.

These parcels have been taken over by invasive salt cedar within these important riparian woodlands along the Virgin River. This has caused an ecological shift from native trees and plants to salt cedar. These projects used two Caterpillar skid steer machines with a masticating head to cut and masticate the salt cedar. Immediate follow up treatment using herbicide was applied to help control the re-sprouting of the Salt cedar. Planting of native cottonwood, coyote willow, gooddings willow will also occur via pole planting in these riparian floodplains

Equipment in action

Treated Area with herbicide applied

Statewide Trapping Program

The Nevada Division of Forestry cooperates with the Nevada Department of Agriculture to conduct trapping and monitoring of native and non-native insects. The Nevada Division of Forestry mainly traps native bark beetle populations to monitor trends and populations. The focus is placed mainly on mountain pine beetle, pine engraver, western pine beetle, and fir engraver beetle. Three sites are selected statewide for the bark beetle survey. Sites are selected based on stand species composition, elevation, and risk of potential outbreaks. Funnel lindgren traps are serviced every two weeks and samples sent to the Nevada Department of Agriculture. As in recent years populations and trends have remained fairly consistent with only endemic populations being present.

Nevada Department of Agriculture conducts Asian defoliator, exotic wood borer surveys, gypsy moth, palm commodity survey, and pine shoot beetle surveys. The Asian defoliator survey has sites selected based on host availability, use and/or risk of introduction. During the 2018 season, 300 traps were placed in 5 counties within Nevada. The traps were serviced three times, approximately once a month, and then were removed September, 2018. All suspect specimens were negative.

The exotic wood borer survey had eleven sites selected and four sites for the exotic light trap survey. Sites were selected based on high potential risk of introduction and/or observed damage conducive to target pests. Also, sites that had not been previously surveyed were favored. Two-four 12 funnel lindgren traps, with appropriate lure(s), were placed at each EWB site, for a total of 20 traps. Each trap was serviced as close to every 30 days as possible. Samples have been processed and all were negative for target pests. Four sites; 1 in Carson City Co., 2 in Washoe Co. and 1 in Lyon Co., were selected to conduct light trap surveys. Each site was visited four times, for a total of 16 visits. At each visit two traps, a mercury vapor light and a fluorescent UV light, were set up at sunset and monitored until midnight or until temperatures drop below 50 degrees Fahrenheit (10 degrees C). During the survey pictures were taken and samples collected. All suspect specimens collected were negative.

The Gypsy Moth survey was conducted and set 212 delta traps with a lure for European and Asian gypsy moths and were placed in all 17 counties in Nevada. Traps were placed in May and June and removed in Sept. and Oct. All traps were determined to be negative.

The Palm Weevil Commodity Survey is very important in southern Nevada due to the amount of palms used as landscape and park trees. In 2018 120 traps were placed in Clark Co. near Las Vegas; 40 bucket traps, 40 Jackson traps and 40 blue sticky traps. The traps are placed in areas not previously surveyed and near host trees or along likely pathways. Traps are serviced as close to every 30 days as possible. Samples are collected if a suspect is found and lures replaced. All samples collected were confirmed negative.

The Pine Shoot Beetle Survey placed 10 traps in 4 Counties in Nevada. Sites that were previously not surveyed, have a high probability of introduction and/or have valuable resources to protect were targeted. Each trap was serviced as close to every 30 day as possible. At each service a sample was collected and lures changed if necessary. Samples have been processed and all were negative for the target pest.

For More Information:

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